

Catalytic synthesis of hydrogen peroxide...

S/076/61/035/002/005/015
B124/B202

Dokl. AN SSSR, 113, 1957; 493, 1954). There are 5 figures, 5 tables, and 17 references: 7 Soviet-bloc and 10 non-Soviet-bloc. 1 reference to English language publications reads as follows: E. B. Maxted, L. K. Moon, E. Overgate, Disc. Faraday Soc., 8, 135, 1950).

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: May 14, 1959

Card 4/9

MAL'TSEV, A.N.; YEREMIN, Ye.N.; MARTEM'YANOV, V.S. (Moskva)

Stationary state concentrations of nitric oxide in a discharge.
Part 3: Part played by the electric spot in the formation of
nitrogen oxides in a glow discharge. Zhur. fiz. khim. 35 no.7:
1503-1505 J1 '61. (MIRA 14:7)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Nitrogen oxide) (Electric discharges through gases)

S/020/61/141/001/015/021
B103/B147

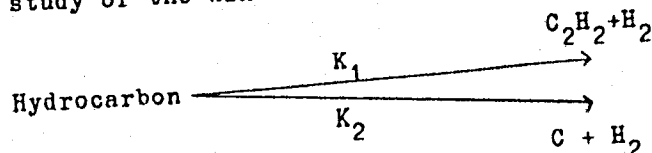
AUTHORS: Tsentsiper, A. B., Yeremin, Ye. N., and Kobozev, N. I.
TITLE: A comparative study of the kinetics of transformation of various hydrocarbons into acetylene during electric discharge in a static system

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 141, no. 1, 1961, 117-120

TEXT: The authors compared the kinetics of electrocracking of CH_4 ; C_2H_6 ; C_3H_8 ; C_2H_4 ; and C_3H_6 . They studied cracking under static conditions with the use of glow and arc discharges with high voltage. Pressure was 35 and 70 mm Hg, amperage 100 and 300 ma. The methods were thoroughly described by Ye. N. Yeremin and M. Z. Al'tshuler et al. (ZhFKh, 20, no. 5 (1947)). After the experiment, gas samples were analyzed for their content of C_2H_2 , C_2H_4 , and C_3H_6 . Hydrogen was burned on copper oxide at 250°C . CH_4 , C_2H_6 , and C_3H_8 were determined from the residue after H_2 combustion. Kinetic calculations considered the two most important reaction directions:
Card 1/04 ✓

A comparative study of the kinetics...

S/020/61/141/001/015/021
B103/B147



The total constant of the decomposition rate of hydrocarbons was determined from the first-order equation: $K_1 + K_2 = (1/\tau) \ln [1/(1 - \Delta)]$, where Δ is the degree of total transformation (ratio of the amount decomposed to the initial amount). First, the acetylene yield rises; after prolonged reaction, its concentration drops due to decomposition. The low energy consumption, as compared with production of C_2H_2 from carbide, shows the advantages of cracking (Table 2). The fraction of total energy thermochemically required for producing a certain amount of C_2H_2 can be estimated from the thermochemical efficiency (η) of the discharge (Table 2). Its high value (0.4 - 0.5) distinguishes electrocracking from other endothermic reactions during discharge. To explain this, a chain mechanism is assumed. Though the kinetic constants (Table 1) have similar values for different hydrocarbons, the sum $K_1 + K_2$ increases on transition to high amperages and with

Card 2/4

S/020/61/141/001/015/021
B103/B147

A comparative study of the kinetics...

increasing electrode spacing. The cracking ability of all hydrocarbons increases, to the same extent, on transition to a more powerful discharge. If the initial cracking rate is expressed by $(K_1 + K_2) \cdot P_{init}$ (P_{init} being the initial hydrocarbon pressure), and if this rate is referred to the unit energy, it is found that the value determined, or the "energetic capacity of the discharge" (Ye. N. Yeremin, Khim. prom., no. 2, 73 (1958); ZhFKh, 32, no. 11, 2543 (1958)) maintains approximate constancy for all hydrocarbons, irrespective of test conditions. Possible deviations are not regular and only accidental. This conclusion may be interpreted by stating that the rate of transformation of hydrocarbons in a glowing arc does not depend on their structure but on the energy of discharge. Electrocracking of the hydrocarbons mentioned may be conducted by the technological procedure of CH_4 cracking; it will raise the yield in C_2H_2 and save energy. There are 1 figure, 2 tables, and 5 Soviet references.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

Card 3/4

A comparative study of the kinetics...

S/020/61/141/001/015/021
B103/B147

PRESENTED: June 7, 1961, by B. A. Kazanskiy, Academician

SUBMITTED: May 30, 1961

Table 1. Principal indices of electrocracking of CH_4 , C_2H_6 , C_3H_8 , C_2H_4 , and C_3H_6 under different conditions of discharge. Legend: (1) Electrode spacing, mm, (2) amperage, ma, (3) pressure, mm Hg, (4) maximum concentration of C_2H_2 , % by volume, (5) total cracking, % of maximum concentration, (6) average sums of constants (K_1+K_2) ($\text{sec}^{-1} \cdot 10^4$) of the decomposition rate of hydrocarbons, (7) energetic efficiency of discharge.

Table 2. Legend: (1) Energy consumption, kwh per 1 m^3 , (2) thermal effect, kwh per 1 m^3 of C_2H_2 , for the reaction: hydrocarbon $\longrightarrow \text{C}_2\text{H}_2 + \text{H}_2$, (3) thermochemical efficiency (η) of discharge.

Card 4/4

S/020/61/141/002/016/027
B103/B110

AUTHORS: Tsintelper, A. B., Yerebin, Ye. M., and Kobozov, N. I.

TITLE: Effect of hydrogen and argon on electrocracking of methane and ethylene

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 141, no. 2, 1961, 378-380

TEXT: The effects of hydrogen and argon on electrocracking of methane CH_4 and ethylene C_2H_4 were compared. The apparatus had been described by the authors (DAN, 141, no. 1 (1961)). The conversion degree Δ was determined on the basis of pressure changes. It was assumed that hydrocarbon mainly decomposes in two directions:

hydrocarbon $\begin{cases} \rightarrow \text{C}_2\text{H}_2 + \text{H}_2 \\ \rightarrow \text{C} + 2\text{H}_2 \end{cases}$, with the change of volume remaining constant. The

experiment was conducted as follows: At a certain partial pressure of hydrocarbon, H_2 or Ar were added up to a total pressure of 50 and 150 mm

Hg. Next, the discharge was switched on (amperage: 300 ma) for a time
Card 1/4

S/020/61, 141/00 015/027
B103/B110

Effect of hydrogen and...

(τ) of 2, 3, 4, 5, 6, 8, 10, 20, 40, and 100 sec. After cooling the reaction vessel, the pressure was measured and the gas analyzed as soon as the conversion was approximately 50%. At a pressure of 40 mm Hg, the cracking rates of CH_4 and C_2H_4 were found to be approximately of the same magnitude. Ar or H_2 additions impede the cracking of these gases almost equally and the more so the higher the partial pressures of H_2 or Ar. At a total pressure of 150 mm Hg, cracking is reduced to about half its value. When reducing the pressure of initial CH_4 to 10 mm Hg and without admixtures the cracking rate of CH_4 is only 1/50 that of C_2H_4 . C_2H_4 cracking is impeded by H_2 and also by Ar. If H_2 or Ar are added to CH_4 , cracking is rapidly activated, and CH_4 cracks almost as fast as C_2H_4 . Thus, also the discharge is changed. At a pressure of 40 mm Hg, the discharge shows a yellow, slightly blackening flame in pure hydrogen or in mixtures with H_2 or Ar. With CH_4 and at a pressure of 10 mm Hg, the discharge shows a bluish light which becomes intensely yellow as soon as H_2

Card 2/4

S/020/61/141/002, 0-5/027
B103/B110

Effect of hydrogen and ..

or Ar are added. With C_2H_4 and at the same pressure the discharge shows a yellow flame. Hence, CH_4 cracking is activated by an increase of the total CH_4 pressure, by an H_2 admixture and even more so by Ar. Electrocracking of CH_4 was found to be activated by three completely different causes: increase of pressure, of amperage, and by localizing the discharge between glowing points on the carbon coating of the electrodes. The activation is due to a transformation of the slightly active, glowing discharge into a chemically more active arc discharge. The molecular temperatures of the latter are higher and thus have a positive effect upon cracking. It is assumed that only electron activation causes processes of considerable activation energies (cracking of C-C and C-H bonds). The newly formed radicals and atoms take part in the chain-like continuation of the process. This requires thermal activation. The chain-like mechanism of this process is confirmed by the high values of thermal coefficients in hydrocarbon cracking (0.4 - 0.6). It is concluded that H_2 does not have a specific effect upon electrocracking of hydrocarbons. There are 1 figure, 1 table, and 6 references: 4 Soviet and

Card 3/4

Effect of hydrogen and...

5/020/61/141/000 007
B103/B110

2 non-Soviet. The two references to English-language publications are as follows: H. M. Stanley, A. W. Nash, J. Soc. Chem. Ind., 48, 230 (1941); I. H. Perril, W. G. Ewersoll, Ind. and Eng. Chem., 33, No. 10, 1316 (1941).

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

PRESENTED: June 7, 1961, by B. A. Karanakiy, Academician

SUBMITTED: May 30, 1961

Card 4/4

37993

S/189/62/000/003/001/001
D214/D307

11.1220

11.1190

AUTHORS:

Nekrasov, L.I., Kobozev, N.I., and Yereimin, Ye.N.

TITLE:

Low temperature reactions of atoms and radicals
(report II). The interaction of atomic hydrogen
with H_2O_2

PERIODICAL:

Moscow. Universitet. Vestnik. Seriya II, Khimiya,
no. 3, 1962, 24 - 25

TEXT:

The reactions of atomic hydrogen with H_2O_2 in the
vapor and solid states were studied at $-196^\circ C$ to explain the mecha-
nism of dissociation of H_2O vapor induced by an electric discharge.
This reaction only occurs in the gas phase, when an almost complete
conversion of H_2O_2 into H_2O is achieved. The mechanism is described
by $H_2O_2 + H \longrightarrow H_2O + OH + 45 \text{ Kcal.}$ and $OH + H \longrightarrow H_2O + 114.5 \text{ Kcal.}$
The absence of a reaction between H atoms and solid H_2O_2 is attributed

Card (1/2)

Low temperature reactions ...

S/189/62/000/003/001/001
D214/D307

to the inability of the H atoms to reach the inner layers of the solid. There is 1 table.

ASSOCIATION: Kafedra fizicheskoy khimii (Physical Chemistry
Department)

SUBMITTED: February 7, 1961

Card 2/2

IL'IN, D. T.; YEREMIN, Ye. N.

Pyrolysis of gasoline vapors to acetylene and olefins in
water vapor plasma. Vest. Mosk. un. Ser. 2: Khim. 16 [i.e.17],
no.6:41-42 N-D '62. (MIRA 16:1)

1. Kafedra fizicheskoy khimii Moskovskogo universiteta.

(Gasoline)	(Acetylene)	(Olefins)
	(Pyrolysis)	

IL'IN, D.T.; YEREMIN, Ye.N.

Pyrolysis of gasoline vapors to acetylene and olefins in hydrogen plasma. Vest.Mosk.un.Ser.2: Khim. 17 no.2:29-30 Mr.-Ap '62.
(MIRA 15:4)

1. Kafedra fizicheskoy khimii Moskovskogo universiteta.
(Acetylene) (Olefins) (Gasoline) (Plasma (Ionized gases))

IL'IN, D.T.; YEREMIN, Ye.N.

Effect of preheating of gas in the electrocracking of methane to
acetylene. Zhur.prikl.khim. 35 no.11:2496-2504 N '62. (MIRA 15:12)
(Methane) (Acetylene) (Cracking process)

35410
S/076/62/036/003/009/011
B101/B108

11.11.20
AUTHORS:

Nikitin, I. V., and Yereimin, Ye. N.

TITLE:

Formation of ozone from dissociation products of carbon dioxide in a glow discharge

PERIODICAL:

Zhurnal fizicheskoy khimii, v. 36, no. 3, 1962, 616 - 619

TEXT: Dissociation was studied of CO_2 passing a glass discharge tube (100 cm long, diameter 20 mm) at a pressure of 0.8 - 1.15 mm Hg, and at 50 - 400 ma. The gas passing through the tube was collected in a Dewar vessel, CO_2 was frozen out, and O_3 determined iodometrically.. Results:

(1) Since no carbon was separated out, only the dissociation $\text{CO}_2 \rightleftharpoons \text{CO} + \text{O}$ took place; (2) O_3 yield was no linear function of the specific energy u/v (Fig. 2); (3) a hyperbolic dependence of the ozone yield, a , on the gas flow rate, v , was observed at constant amperage (at 400 - 250 ma, but not below this): $a/v = \text{const}$; a steady state of CO_2 dissociation was then attained; (4) ozone was mainly formed in the cooled receiver:

Card (12)

Formation of ozone from ...

S/076/62/036/003/009/011
B101/B108

$O + O_2 + S_{cold} \rightarrow O_3 + S_{cold}$; (S_{cold} = cooled surface of the receiver).
Proofs of the surface reaction are: (a) the O_3 yield dropped when the feed pipe to the receiver was lined with Pt foil or Pt grid; (b) O_3 yield was not proportional to the duration of experiment since a heat-insulating layer consisting of reaction products gradually formed on the surface of the receiver. There are 3 figures, 1 table, and 7 Soviet references. X

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: May 26, 1961

Fig. 2. Ozone yield and degree of conversion of CO_2 as a function of specific energy at $P = 1.05$ mm Hg. (1) O_3 yield at 1.26 liters/hr; (2) yield at 2.30 liters/hr; (3) degree of conversion at 1.26 liters/hr; (4) degree of conversion at 2.30 liters/hr; Legend: (a) ozone yield, moles $\cdot 10^5 / 10$ min; (b) specific energy, w·hr/liter; (c) degree of conversion
Card 2/3

37076
S/076/62/036/004/006/012
B101/B110

11.1180

AUTHORS:

Mal'tsev, A. N., Yerebin, Ye. N., and Meshkova, I. N.

TITLE:

Steady-state concentrations of nitrogen oxide in electric discharge. IV. Effect of composition of the initial mixture on the formation of nitrogen oxide in a large vessel

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 4, 1962, 780-788

TEXT: The steady-state concentration $(\%NO)_{\infty}$ was studied at 50-300 mm Hg, with an amperage of electric discharge of 25-500 ma in "reciprocal air" ($N_2 : O_2 = 18 : 82$), and in stoichiometric mixture ($N_2 : O_2 = 46 : 54$). The results are compared with those obtained previously for air (Zh. fiz. khimii, 30, 1615, 1956). Results: For the mixtures investigated, $(\%NO)_{\infty}$ as a function of the amperage shows the same dependence as for air, i.e., at low pressure, $(\%NO)_{\infty}$ rises with increasing amperage and tends toward a limit which is rather independent of pressure; at high pressures, $(\%NO)_{\infty}$ passes through a maximum which lies close to the limit mentioned.

Card 1/3

S/076/62/036/004/006/012
B101/B110

Steady-state concentrations ...

The limits of $(\%NO)_{\infty}$ were 5.5% in air; 8.1% in stoichiometric mixture, and 6.8% in "reciprocal air". At low amperages, however, approximately, equal $(\%NO)_{\infty}$ resulted in air and "reciprocal air". The volt-ampere characteristics of discharge in air, stoichiometric mixture, and "reciprocal air" showed that combustion voltage of the discharge is higher in air than in reciprocal air (Fig. 10). For mixtures enriched with O_2 , the oscillograms of the voltage showed the appearance of oscillations with increased frequency (1500-2000 cps). There are 12 figures and 1 table.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: July 1, 1960

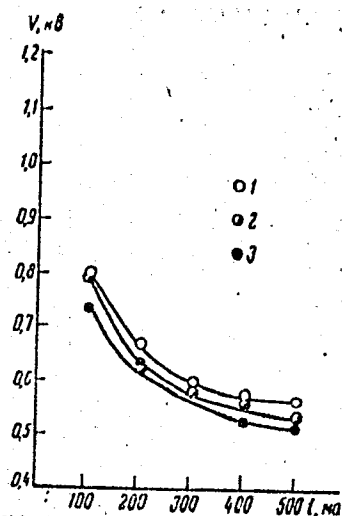
Fig. 10: Volt-ampere characteristics at 100 mm Hg. (1) air;
(2) reciprocal air; (3) stoichiometric mixture; ordinate V, kv;
abscissa i, ma.

Card 2/3

Steady-state concentrations ...

S/076/62/036/004/006/012
B101/B110

Fig. 10



Card 3/3

X

S/076/62/036/006/001/011
B101/B144

AUTHORS: Borisova, Ye. N., and Yeremin, Ye. N.
TITLE: Mechanism of the conversion of methane into acetylene in electric discharges. I. Kinetics of the conversion of methane and ethylene in the glow discharge
PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 6, 1962, 1261-1268

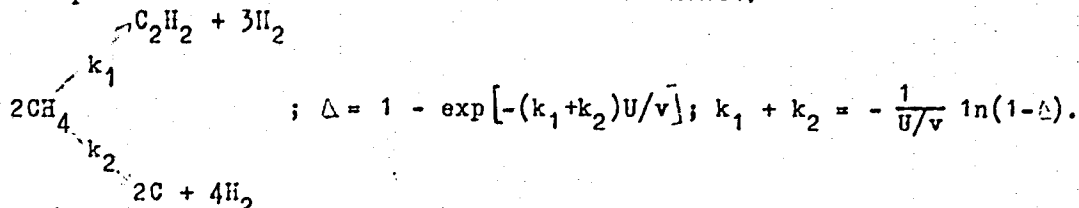
TEXT: A study was carried out of C_2H_2 formation from CH_4 or C_2H_4 using a quartz discharge tube of 25 mm diameter and with 25 cm distance between the electrodes, at 28 and 38 mm Hg pressure and consuming 0.40 - 0.41 kw. Measurements were made of the discharge power $U = 0.7 \cdot IE$ (w), the flow rate v of the gas (liters/hr), the specific energy U/v (w·hr/liter), the expansion coefficient β of the gas, the energy consumption α per liter of C_2H_2 (w·hr/liter of C_2H_2), the total conversion (Δ for CH_4 , Δ' for C_2H_4), and the degrees of conversion:
 $\gamma = 2\beta[C_2H_2]/[CH_4]_0$; $\gamma' = \beta[C_2H_2]/[C_2H_4]_0$, and $\gamma'' = 2\beta[C_2H_4]/[CH_4]_0$.

Card 1/3

S/076/62/036/006/001/011
B101/B144

Mechanism of the

Two parallel reactions were assumed for methane:



Similar equations hold for ethylene. Results at 28 mm Hg: (1) When CH_4 is electrocracked, the C_2H_2 percentage increases rapidly, reaches a maximum of 17.4% at $U/v = 14.5$ w·hr/liter, then decreases very slowly. With C_2H_4 , the C_2H_2 maximum of 34.8% is reached at 10.7 w·hr/liter, followed by a rapid decrease. (2) γ_{max} and γ'_{max} versus U/v are almost equal; $\Delta' > \Delta$. (3) Decomposition and polymerization are much more intensive with C_2H_4 than with CH_4 : more carbon black and tar are formed. (4) When CH_4 is cracked, C_2H_4 also forms, with a maximum of 5% at 3 - 5 w·hr/liter.

Card 2/3

Mechanism of the...

S/076/62/036/006/001/011
B101/B144

(5) For CH_4 the value of $k_1 + k_2$ is 0.1033 and for C_2H_2 it is 0.1659 liters/w·hr, thus differing by a factor of 1.5 only. At 38 mm Hg, this value was 0.1872 liters/w·hr for CH_4 and no more than 4% C_2H_4 formed at 34 - 36 mm Hg, $k_1 + k_2$ came to only 0.1040 liters/w·hr for C_2H_4 . From these results it is concluded that C_2H_2 cannot be the only or even the main substance resulting from the intermediate product C_2H_4 when CH_4 is electrocracked. There are 7 figures and 2 tables. The most important English-language reference is: H. Wiener, M. Burton, J. Amer. Chem. Soc., 75, 5815, 1953. ✓

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: August 9, 1960

Card 3/3

S/076/62/036/007/009/010
B101/B138

AUTHORS: Il'in, D.T., and Yeremin, Ye. N.

TITLE: Pyrolysis of gasoline vapor to acetylene and olefins in water vapor plasma

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 7, 1962, 1560 - 1562

TEXT: Water vapor plasma was produced in a plasmotron (7 a, 1.5 kv, 1 kwhr/liter H_2O), mixed with gasoline vapor, and fed through tangential inlets into the pyrolysis chamber. After liberating the water vapor the pyrolysis products were investigated by gas analysis and chromatography.

Results: Water vapor consumption was $14 m^3/hr$. At 0.25-0.35 specific consumption of gasoline δ (δ - liter of liquid gasoline per liter of liquid H_2O) 30 % by volume of unsaturated compounds were obtained: $\sim 11\%$

by volume of C_2H_2 , and ~ 19 vol. % of olefins. The energy consumption α did not exceed 7 kwhr per m^3 of unsaturated compounds. In contrast to pyrolysis in hydrogen plasma, about 5 % by volume CO_2 , about 5% by volume

Card 1/2

Pyrolysis of gasoline ...

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B107/B138

CO, and about 1% by volume O_2 were formed in addition. With increasing δ , the maximum yield of unsaturated compounds and minimum α are rapidly attained. It is suggested that large plants would yield 40-50 % by volume of unsaturated compounds at lower α . There are 2 figures.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: November 14, 1961

Card 2/2

BORISOVA, Ye.N.; YEREMIN, Ye.N.

Mechanism of the conversion of methane to acetylene in electrical discharges. Part 2. Zhur. fiz. khim. 36 no.11:2334-2339 N'62.

(MIRA 17:5)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

GERASIMOV, Yakov Ivanovich, prof.; DREVING, Vladimir Petrovich;
YEREMIN, Yevgeniy Nikolayevich; KISELEV, Andrey
Vladimirovich; LEBEDEV, Vladimir Petrovich; PANCHENKOV,
Georgiy Mitrofanovich; SHLYGIN, Aleksandr Ivanovich;
NIKOL'SKIY, B.P., prof., retsenzent; SHUSHUNOV, V.A., prof.,
retsenzent; LUR'YE, G.Ye., red.; SHPAK, Ye.G., tekhn. red.

[Course in physical chemistry] Kurs fizicheskoi khimii. [By]
IA.I.Gerasimov i dr. Moskva, Goskhimizdat, 1963. Vol.1. 624 p.
(MIRA 17:1)

1. Chlen-korrespondent AN SSSR (for Gerasimov, Nikol'skiy).
2. Kafedra fizicheskoy khimii Leningradskogo gosudarstvennogo universiteta (for Nikol'skiy, Shushunov).

S/189/63/000/002/003/010
A057/A126

AUTHORS: Nekrasov, L.I., Kobozev, N.I., Yeremin, Ye.N.

TITLE: Low-temperature reactions of atoms and radicals. Communication III.
Dissociation of water vapors in an electric glow discharge

PERIODICAL: Vestnik Moskovskogo universiteta, Seriya II, Khimiya, no. 2, 1963,
17 - 19

TEXT: The authors demonstrated in an earlier paper (Vestn. Mosk. un-ta, ser. khimii, no. 12, 1960, 12) the effect of the construction and temperature of the collector for the products upon the dissociation of water vapor in a glow discharge. The effect was controlled by the yield and concentration of hydrogen peroxide and the yield of water, hydrogen and oxygen. In continuation of these studies, the effect of flow rate and pressure on the H_2O dissociation and the following reactions were investigated in the present work. The same apparatus and technique were used as in the former work. The results obtained on the effect of the vapor pressure are in good agreement with data presented by W.K. Rodebush et al. (J. Am. Chem. Soc., v.59, 1939, 1924) showing a decrease of the peroxide

Card 1/2

Low-temperature reactions of atoms and

S/189/63/000/002/003/010
A057/A126

yield with rising pressure (from 0.3 to 1.5 torr) and no considerable change of the water yield. In correspondence with the obtained kinetic curves of the yield the authors assume three principal stages in the reaction: In the first stage there occurs a dissociation of water vapors in the electric discharge, in the second a recombination of the atoms and radicals, whose transformations occur in the third stage directly on the cooled surface of the collector. There are 3 figures.

ASSOCIATION: Kafedra fizicheskoy khimii (Department of Physical Chemistry)

SUBMITTED: March 23, 1961

Card 2/2

IL'IN, D.T.; YEREMIN, Ye.N.

On the improvement of the method of electrocracking of methane
to acetylene. Vest. Mosk. un. Ser. 2: Khim. 18 no.3:41-44
My-Je '63. (MIRA 16:6)

1. Kafedra fizicheskoy khimii Moskovskogo universiteta.
(Methane) (Cracking process) (Acetylene)

44892

S/076/63/037/001/004/029
B101/B186

11.11.60
AUTHORS:

Mironov, G. A., Mal'tsev, A. N., and Yeremin, Ye. N. (Moscow)

TITLE:

Steady concentrations of nitrogen oxide on discharge. V.
Study on the role of the cathode space of direct current glow
discharge on nitrogen oxidation

PERIODICAL: Zhurnal fizicheskoy khimii, v. 37, no. 1, 1963, 36-43

TEXT: The effect of irregular energy distribution in d-c glow discharge on the oxidation of nitrogen is studied. The experiment was made in a quartz discharge tube with electrodes placed vertically one above the other. The upper electrode (cathode) had a 1.4 mm channel for removing the NO formed in the cathode space, in order to determine this analytically. The experiments were made at 50, 100, 200, and 300 mm Hg and 50 - 700 ma, also at 400 mm Hg and 50 - 800 ma. At 700 ma, maximum concentration [NO] was obtained, being 7.4% at 50, 7.3% at 100, 7.2% at 200 - 300, and 7.1% at 400 mm Hg. At 400 mm Hg and 800 ma, 7.4% NO was obtained. For the synthesis of NO it is assumed that up to 300 ma the positive column of the glow discharge plays the main part, whereas at higher current

Card 1/2

Steady concentrations of nitrogen ...

S/076/63/037/001/004/029
B101/B186

intensities the effect of the cathode space sets in. $[\%NO]_{\infty} = a - bI$ is valid between 300 and 800 ma. The constant a characterizes the process in the positive column, the constant b the process in the region of the cathode drop. The authors obtained $a = 4.93 - 5.05$ and $b = 0.0031$. The limit of the linear increase in $[\%NO]_{\infty}$ at increasing current intensity was not reached in the experiment. There are 3 figures and 2 tables.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. N. V.
Lomonosova (Moscow State University imeni M. V. Lomonosov)

SUBMITTED: May 16, 1961

X

Card 2/2

L 16923-63

RM/WW

EPF(c)/EWT(1)/EWT(m)/BDS/ES(w)-2

AFFTC/ASD/SCD Pr-L/Pab-4
S/076/63/037/004/013/029

75
74

AUTHOR:

Tsentsiper, A. B., Yeremin, Ye. N., Kobozev, N. I.

TITLE:

The study of the conversion of hydrocarbons into acetylene in the
electrical discharge in a static system. I. Comparative study of
the conversion rates of methane, ethane, propane, ethylene, and
propylene

PERIODICAL:

Zhurnal fizicheskoy khimii, V. 37, No. 4, 1963, 835-841

TEXT:

The conversion of methane, ethane, propane, propylene, and ethylene in a discharge are investigated. The basic element of the testing unit was a reactor composed of a round-bottom flask with two brass electrodes and with internal water cooling. The distance between electrodes was set at 15 mm. The current was varied between 50-600 ma and the pressure of the hydrocarbons between 10-150 mm of mercury. There are two types of discharge which differ sharply in their conversion rates. Change from one type to the other takes place with a change in pressure and in current density. The conditions under which the transition takes place are different for methane and the other hydrocarbons. During the active (glowing) discharge the main direction of the decomposition process for the hydrocarbons, as for the methane, lies in the formation of acetylene;

Card 1/2

L 16923-63

S/076/63/037/004/013/029

The study of the conversion of hydrocarbons into ...

ethylene is produced in small amounts. The activity of the chemical action of the discharge may be characterized by the energy efficiency, which is proportional to the amount of hydrocarbon reacting per unit of energy expended. The energy efficiency of the active form of the discharge is approximately the same for all the hydrocarbons which were investigated. There are 2 tables and 2 figures. The most important English-language reference reads as follows: E. G. Linder, A. P. Davis, J. Phys. Chem., 35, 3649, 1931.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: April 24, 1962

Card 2/2

TSENTSIPER, A.B.; YEREMIN, Ye.N.; KOBOZEV, N.I. (Moscow)

Conversion of hydrocarbons to acetylene in the electric discharge
in a static system. Part 2. Zhur. fiz. khim. 37 no.5:1063-1068
My '63. (MIRA 17:1)

L 12700-63 EFF(c)/EWT(m)/BDS Pr-4 RM/WW
ACCESSION NR: AP3002927

S/0076/63/037/006/1264/1269

AUTHOR: Tsentsiper, A. B.; Yereimin, Ye. N.; Kobozev, N. I.

TITLE: Conversion of hydrocarbons to acetylene in an electric discharge in a static system. 3. Study of electrocracking of methane, ethane, and propane to acetylene in the arc.

SOURCE: Zhurnal fizicheskoy khimii, v. 37, no. 6. 1963; 1264-1269

TOPIC TAGS: hydrocarbon, acetylene, electrocracking, methane, ethane, propane

ABSTRACT: The kinetics and energetics of the conversion of methane, ethane, and propane to acetylene under conditions of the active forms of the discharge have been investigated. In all cases, the chief reaction products are acetylene and hydrogen. A general kinetic scheme has been applied to these hydrocarbons, and an explanation has been given of the kinetic stability of acetylene which results in its being a major cracking product. The concentrations of acetylene (up to 26%) obtained in the electrocracking of methane homologs are much greater than the respective concentrations in the electrocracking of methane (up to 20%), the consumption of energy being diminished. Orig. art. has: 3 tables, 4 equations, and 3 figures.

Association: Moscow State University

Card 1/2

TSENTSIPER, A.B.; YEREMIN, Ye.N.; KOBOZEV, N.I.

Conversion of hydrocarbons to acetylene in the electric discharge in a static system. Zhur.fiz.khim. 37 no.7:1487-1491 J1 '63. (MIRA 17:2)

1. Moskovskiy gosudarstvennyy universitet.

L 18875-63 EWT(1)/EWP(q)/EWT(m)/BDS/ES(w)-2 AFFTC/ASD/ESD-3/AFWL/
IJP(C)/SSD Pab-4 JD

ACCESSION NR:AP3006626

8/0076/63/037/009/2087/2093

AUTHORS: Pollo, I.; Mal'tsev, A. N.; Yerevin, Ye. N.

TITLE: Equilibrium Concentrations of Nitrogen Monoxide in the glow discharge.
6. Effect of feed composition on the formation of nitrogen
monoxide in a narrow diameter reactor

SOURCE: Zh. fizicheskoy khimii. v. 37, no. 9, 1963, 2087-2093

TOPIC TAGS: equilibrium concentration, glow discharge, feed concentration, current
strength, pressure effect

ABSTRACT: Paper deals with formation of nitrogen monoxide in a Silica tube of
3 mm diameter in narrow part of tube, which was 30 mm long and 60 mm between
stainless steel electrodes. Under all conditions, the yield of NO in the narrow
reactor was higher than that obtained in the large-diameter-reactor, and with a
feed of stoichiometric composition reached 15.5%. In a range of low pressures
and current strengths, the yield of nitrogen monoxide is directly proportional to
product of pressure by current, but for higher values of p and C, this relation
can be expressed in the form of an exponential equation. The strength of

1/2

Card

L 18875-63

ACCESSION NR: AP3006626

discharge is the basic factor determining the reaction rate. Orig.art. has: 6 figures, 1 table and 14 formulas.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University)

SUBMITTED: 27Oct62

DATE ACQ: 30Sep63

ENCL: 00

SUB CODE: CH

NO REF SOV: 007

OTHER: 001

2/2

Card

IL'IN, D.T.; YEREMIN, Ye.N.

Pyrolysis of benzene vapors to acetylene and olefins in the
hydrogen plasma. Zhur.fiz.khim. 36 no.10:2222-2224, 0 '62.
(MIRA 17:4)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

MIRONOV, G.A.; MAL'TSEV, A.N.; YEREMIN, Ye.N.

Steady state concentrations of nitric oxide in a discharge. Part 5.
Zhur.fiz.khim. 37 no.1:36-43 Ja '63. (MIRA 17:3)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

BORISOVA, Ye.N.; YEREMIN, Ye.N.

Mechanism of the conversion of methane to acetylene in electric discharges. Part I. Zhur. fiz. khim. 36 no.6:1261-1268 Je'62
(MIRA 17:7)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

ATTACHED K. L. ...

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AUTHOR: ...

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SUBMITTED 20/01/53

ENCLOSURE

10/1/53

APPROVED FOR RELEASE: 09/01/2001

CIA-RDP86-00513R001962720014-9"

IL'IN, D.T.; YEREMIN, Ye.N.

Effect of the dimensions of the reaction channel and
discharge chamber on methane electrocracking. Zhur.
prikl.khim. 38 no.11:2479-2487 N '65.

(MIRA 18:12)

1. Submitted December 31, 1963.

MAITSEV, A.N.; YEREMEN, Ye.N.; IVANTSEV, V.I.

Effect of the specific energy and current intensity on the kinetics of formation of nitrogen oxides in a discharge. Zhur. fiz. khim. 39 no.8:1906-1911 Ag '65. (MIRA 18:9)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

L 30778-66 EWP(j)/EWT(m) RM/WW/JW/WE

ACC NR: AP6022138

SOURCE CODE: UR/0080/65/038/012/2786/2796

AUTHOR: Il'in, D. T.; Yerevin, Ye. N.

ORG: none

TITLE: Pyrolysis of vapors of certain hydrocarbons and gasoline by mixing them with a stream of hydrogen plasma produced in an electric arc

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 12, 1965, 2786-2796

TOPIC TAGS: gasoline, pyrolysis, hydrocarbon, electric arc, hydrogen plasma, plasma beam

ABSTRACT: A study of the pyrolysis of vapors of low-octane gasoline and certain hydrocarbons ($n\text{-C}_6\text{H}_{14}$, $n\text{-C}_7\text{H}_{16}$, $n\text{-C}_8\text{H}_{18}$, and $\text{iso-C}_8\text{H}_{18}$) in hydrogen plasma produced in a high voltage direct-current electric arc, at a pressure of about 1.1 - 2 absolute atmospheres and equivalent in temperature to up to 5000°, under the condition that hydrocarbons do not enter the discharge zone, has shown that the qualitative composition of end products of pyrolysis depends but little on the nature of the original compounds. Pyrolysis of a gasoline representing a mixture of 76 individual compounds, as well as pyrolysis of the specific hydrocarbons led to the formation chiefly of acetylene, ethylene, and methane. The degree of overall conversion of gasoline into gaseous compounds approximated 100%, while formation of carbon black and other solid

Card 1/2

UDC: 542.44+66.092+547.314.2

0915

0054

L 30778-66

ACC NR: AP6022138

products was slight. The extent to which gasoline was converted to unsaturated compounds (acetylene and ethylene) in this case amounts to 80%, and the maximum concentration of unsaturated compounds--to 17.5 volume %. Orig. art. has: 7 figures and 1 table. JPRS

SUB CODE: 07, 21, 20 / SUBM DATE: 31Dec63 / ORIG REF: 004 / OTH REF: 007

Card 2/2

JS

ACC NR: AP7003339

SOURCE CODE: UR/0076/66/040/012/3110/3112

AUTHOR: Rubtsova, Ye. A.; Yerebin, Ye. N.; Mal'tsev, A. N.

ORG: Chemistry Department, Moscow State University im. M. V. Lomonosov
(Moskovskiy gosudarstvennyy universitet, Khimicheskiy fakul'tet)

TITLE: Role of catalysts in the synthesis of hydrazine from ammonia
in a glow discharge

SOURCE: Zhurnal fizicheskoy khimii, v. 40, no. 12, 1966, 3110-3112

TOPIC TAGS: chemical synthesis, hydrazine, ammonia, ~~hydrazine syn-~~
~~thesis~~, glow discharge, nickel ~~catalyst~~, platinum ~~catalyst~~, CATALYST

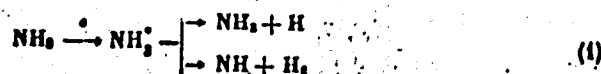
ABSTRACT: A study has been made of the role of nickel or platinum catalysts in the synthesis of hydrazine from ammonia in a glow discharge. The experiments were conducted in a circulation system. The apparatus and procedure are described in the source. Three series of experiments were carried out: 1) without catalysts with glass electrodes preliminarily treated with nitric acid and alkali; 2) with nickel as the catalyst; and 3) with platinum as the catalyst. Thin layers of the catalysts were deposited on the surface of the inner glass electrode by immersion in a solution of nickel nitrate or chloroplatinous acid in absolute alcohol, and by heating in the flame of a gas burner to

Card 1/4

UDC: 541.128+541.14

ACC NR: AP7003339

decompose the salt. Catalyst activity was shown to decrease with time. In some experiments, the catalysts were regenerated by heating as above; in other experiments, the catalysts were redeposited on the electrodes. The results given in the table indicate that nickel and platinum catalysts increase hydrazine yield by a factor of 1.7 and 2.8, respectively. From these results and previous studies it can be assumed that the mechanism of hydrazine formation is as follows: 1) primary dissociation of ammonia



and 2) recombination of the radicals formed



Card 2/4

ACC NR: AP7003339

Hydrazine yield depending on the catalyst.
Each test lasted two hours.

τ , hr	Yield in hydrazine, mg	ΔN_2H_4 , %	τ , hr	Yield in hydrazine, mg	ΔN_2H_4 , %
Without catalyst			12	52,0	2,8
2	37,2	2,0	14	61,6	3,3
12	26,6	1,4	With Pt catalyst		
14	22,2	1,2	2	76,0	4,1
22	24,6	1,3	4	72,6	4,0
26	21,7	1,2	6	59,6	3,8
28	31,9	1,7	8	67,1	3,6
With Ni catalyst			Catalyst regenerated by heating in the flame of a gas burner		
2	59,8	3,2	2	73,3	4,0
14	50,5	3,1	4	74,4	4,0
16	27,3	1,5	6	66,2	3,6
Catalyst regenerated by heating in the flame of a gas burner			Catalyst redeposited		
2	30,6	1,6	2	80,3	4,3
4	21,7	1,2	4	80,5	4,3
Catalyst redeposited			6	78,5	4,2
2	53,8	2,9	8	85,1	4,6
4	51,5	2,8	10	90,0	4,8
6	52,0	2,8	12	85,1	4,6
8	54,2	2,9	14	84,0	4,5
10	57,5	3,1			

τ is the overall time in use of a given surface; ΔN_2H_4 is the degree of conversion of ammonia to hydrazine.

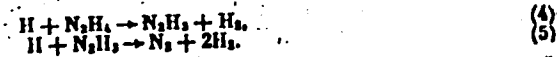
Card 3/4

ACC NR: AP7003339

According to certain authors, hydrogen atoms formed in reaction (1) react with the hydrazine to decompose it either in one step



or in two steps



Therefore, it is probable that the role of the nickel and platinum catalysts consists of the acceleration of the recombination of the hydrogen atoms and, hence, in the inhibition of hydrazine decomposition. [W. A. 77]
Orig. art. has: 1 figure and 1 table. [BO]

SUB CODE: 07/ SUBM DATE: 190ct65/ OTH REF: 007

Card 4/4

ACC NR: AF7012422

SOURCE CODE: UR/0189/66/000-003/0008/001

AUTHOR: Meshkova, G. I.; Yeregin, Ye. N.

ORG: Department of Physical Chemistry, Moscow State University (Kafedra fizicheskoy khimii Moskovskogo gosudarstvennogo universiteta)

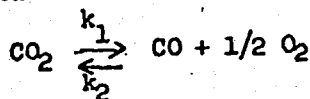
TITLE: Role of specific energy in the kinetics of reactions in electrical discharges. Kinetics of the break down of carbon dioxide

SOURCE: Moscow. Universitet. Vestnik. Seriya II. Khimiya, no. 3, 1966, 8-13

TOPIC TAGS: glow discharge, gas dissociation

SUB CODE: 07

ABSTRACT: The kinetics of dissociation of carbon dioxide gas in a glow-discharge in a flow system were studied. For the dissociation of carbon dioxide gas



the G. M. Panchenkov equation takes on the form

$$-n_0 \frac{d}{dV} = \bar{k}_1 \gamma_1 \text{CO}_2 - k_2 \gamma_2 \text{CO} \gamma_3 \text{O}_2,$$

Card 1/2

UDC: 541.124:537.525.546:264

0932 1360

ACC NR: AP7012422

where n_0 = number of moles of CO_2 entering the beginning of the reaction zone per unit time, α = extent of dissociation of CO_2 , and V = volume of reaction zone. The extent of dissociation of carbon dioxide gas as a function of specific energy (U/V) was studied at pressures of 40 mm, 80 mm, and 160 mm Hg. The dimension of specific energy was kwh/m^3 . The kinetic treatment of experimental results was made with the equation of S. S. Vasil'yev, N. I. Kobozev, and Ye. N. Yeremin

$$\alpha = \frac{k_0}{k_2'} [1 - \exp(-k_2 \frac{U}{V})],$$

where k_0 and k_2' = generalized constants of the forward and backward reactions proportional to k_1 and k_2 , respectively. The overall order of the reverse reaction is conventionally taken as unity. Orig. art. has: 3 figures, 3 formulas and 2 tables. [JPRS: 40,422]

2/2

ACC NR: AP7012423

SOURCE CODE: UR/0189/66/000/003 0014/0017

AUTHOR: Meshkova, G. I.; Yeregin, Ye. N.

ORG: Department of Physical Chemistry. Moscow State University (Kafedra fizicheskoy khimii, Moskovskogo gosudarstvennogo universiteta)

TITLE: Role of specific energy in the kinetics of reactions in electrical discharges. Electrocracking of methane

SOURCE: Moscow. Universitet. Vestnik. Seriya II. Khimiya, no. 3, 1966, 14-17

TOPIC TAGS: glow discharge, methane, chemical energy conversion, acetylene

SUB CODE: 07

ABSTRACT: The kinetics of conversion of methane in a glow-discharge are studied with the same equipment used in studying the kinetics of carbon dioxide gas dissociation in a glow-discharge. The composition of the methane cracking gas was plotted as a function of U/V (specific energy) at a current of 175 milliamperes and a pressure of 40 mm Hg. The mixture components were H_2 , CH_4 , and C_2H_2 . For other sets of experimental conditions studied, the character of the dependence was similar: at low specific energies, the acetylene concentration

Card 1/2

UDC: 541.124:537.525:547.211

0932 1362

ACC NR: AP7012423

risers fairly rapidly, attaining about 15-16%. At 50 milliamperes and 40 mm Hg, the discharge power was of the order of 50 watts and a pressure of 10 mm Hg and current strengths of 175 and 350 milliamperes. In the former case, practically no acetylene was found, and only small amounts of ethane and ethylene were formed. In the latter, the acetylene concentration was 1-6% at sizable U/V values. It is essential that the ethane and ethylene concentrations pass through maxima in this latter case. Orig. art. has: 5 figures, 1 formula and 2 tables.

[JPRS: 40,422]

2/2

NIKITIN, I.V.; YEREMIN, Ye.N.

Formation of ozone from the dissociation products of carbon dioxide in a glow discharge. Zhur. fiz. khim. 36 no.3:616-619
Mr '62. (MIRA 17:8)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

YEREMIN, Ye. N., prof.; KISELEV, A.V., prof.; KOBOZEV, N.I., prof.;
PANCHENKOV, G.M., prof.; POLTORAK, O.M., prof.; SKURATOV, S.M., prof.;
TATEVSKIY, V.M., prof.; TOPCHIEVA, K.V., prof.; FIGUROVSKIY, N.A.,
prof.; FILIPPOV, Yu.V., prof.; SHAKHPARONOV, M.I., prof.

Iakov Ivanovich Gerasimov; on his sixtieth birthday. Zhur. fiz.
khim. 37 no.12:2803-2804 D '63. (MIRA 17:1)

1. Kafedra fizicheskoy khimii Moskovskogo gosudarstvennogo
universiteta.

BOL'SHAKOV, K.A.; YEREMIN, Yu.G.; YEVSTIGNEYEVA, R.P.

Structure of a compound of gallium chloride with methylene blue.
Izv.AN SSSR,Otd.khim.nauk no.5:745-749 My '61. (MIRA 14:5)

1. Institut tonkoy khimicheskoy tekhnologii im. M.V.Lomonosova.
(Gallium compounds) (Methylene blue)

BOL'SHAKOV, K.A.; YEREMIN, Yu.G.; BARDIN, V.A.

Preparation and properties of a complex of gallium chloride with
methylene blue. Izv.AN SSSR.Otd.khim.nauk no.6:945-950 Je '61.
(MIRA 14:6)

1. Institut tonkoy khimicheskoy tekhnologii im. M.V.Lomonosova.
(Gallium compounds) (Methylene blue)

YEREMIN, Yu.G.; LAVROVA, L.A.; RAYEVSKAYA, V.V.; ROMANOV, P.N.

Use of organic reagents for determining microimpurities in
metals and alloys. Prom.khim.reak. i osobo chist.veshch. no.3:
22-48 '63. (MIRA 17:4)

S/032/63/029/004/004/016
A004/A127

AUTHORS: ~~Yeremin, Yu.G.~~, Romanov, P.N.

TITLE: Determining micro-quantities of boron by means of methylene blue

PERIODICAL: Zavodskaya laboratoriya, no. 4, 1963, 420

TEXT: The authors experimentally checked the assertion of Sh. Wakamatsu (Japan. Analyst, 7,5, 309, 1958) on the non-volatility of boron in determining micro-quantities with the aid of methylene blue. Hydrofluoric acid was replaced by an ammonium fluoride solution and, instead of a 2-hour holding of the mixture, it was heated to boiling point. To eliminate the negative influence of large amounts of tungsten in analyzing high-alloy steel, the non-soluble carbides were fused with potassium pyrosulfite. A description of the determination procedure is given.

ASSOCIATION: Volgogradskiy nauchno-issledovatel'skiy institut tekhnologii mashinostroyeniya (Volgograd Scientific-Research Institute of Machine Building Technology)

Card 1/1

YEREMIN, Yu.G.; LAVROVA, L.A.; RAYEVSKAYA, V.V.; ROMANOV, P.N.

Current methods for determining small quantities of cerium. Zav. lab.
30 no.12:1427-1433 '64. (MIRA 18:1)

ACC NR: AP7005537

SOURCE CODE: UR/0075/66/021/011/1303/1306

AUTHOR: Yeremin, Yu. G.; Rayevskaya, V. V.; Romanov, P. N.

ORG: Polytechnic Institute, Volgograd (Politechnichskiy institut); All-Union Scientific Research Design Institute of Technology of Chemical and Petroleum Machinery, Volgograd (Vsesoyuznyy nauchno-issledovatel'skiy i proyektnyy institut tekhnologii khimicheskogo i neftyanogo apparatostroyeniya)

TITLE: The use of tributyl phosphate for the extraction of microamounts of cerium in the analysis of steels

SOURCE: Zhurnal analiticheskoy khimii, v. 21, no. 11, 1966, 1303-1306

TOPIC TAGS: cerium, cerium analysis, metal analysis, tributyl phosphate, extraction photometric method

ABSTRACT: A method for determining down to 0.005% of cerium in alloy steels is presented. Cerium is separated by extraction with tributyl phosphate and coprecipitated as oxalate on a lanthanum or calcium collector. Cerium is then determined by an extraction-photometric method by means of methylene blue. The

Card 1/2

UDC: 543.70

ACC NR: AP7005537

relative experimental error of the determinations is 2—6%. Orig. art. has:
1 diagram, and 2 tables. [Authors' abstract] [KP]

SUB CODE: 11,07/SUBM DATE: 18Jan65/ORIG REF: 003/OTH REF: 001/

Card 2/2

YEREMIN, Yu.M.

Plotting a nomogram for determining and designing the configuration of bicycle tires subjected to internal pressure. Kauch. i rez. 19 no.9: 53-56 S '60. (MIRA 13:10)

1. Leningradskiy shinnyy zavod.
(Bicycles and tricycles -- Tires)

YEREMIN, Yu. N., Candidate Med Sci (diss) -- "The role of fat in the development of experimental goiter". Sverdlovsk, 1959. 22 pp (Sverdlovsk State Med Inst), 200 copies (KL, No 22, 1959, 121)

SHTENBERG, A.I.; PLOTNIKOVA, Yu.I.; YEREMIN, Yu.N.

Role of nutrition in the development of endemic goiter.
Zhur.ob.biol. 20 no.2:68-76 Mr-Apr '59. (MIRA 12:5)

1. Iz kafedry gigiyeny pitaniya (zav. - prof. A.I.Shtenberg)
Sverdlovskogo gosudarstvennogo meditsinskogo instituta.

(NUTRITION,

in goiter endemicity, review (Rus))

(GOITER,

endemicity, nutritional factors, review (Rus))

YEREMIN, Yu.N.

Effect of fat on the state of the thyroid gland of animals under
conditions of varying iodine supply. Probl. endok. i gorm. 6
no. 5:7-13 '60. (MIRA 14:1)

(FAT METABOLISM) (THYROID GLAND)
(IODINE METABOLISM)

SHTENBERG, A.I.; YEREMIN, Yu.N.

Effect of fats containing a large quantity of highly unsaturated fatty acids on the state of the thyroid gland in animals. Vop. pit. 20 no.3:34-41 My-Je '61. (MIRA 14:6)

1. Iz kafedry gigiyeny pitaniya (zav. - prof. A.I.Shtenberg)
Sverdlovskogo meditsinskogo instituta.
(THYROID GLAND) (ACIDS, FATTY)

YEREMIN, Yu.N.

Iodine content of food products and the pattern of nutrition in
one of the nidi of endemic goiter. Vop. pit. 20 no.4:37-40 JI-Ag
'61. (MIRA 14:7)

1. Iz kafedry gigiyeny pitaniya (zav. - prof. A.I.Shternberg)
Sverdlovskogo meditsinskogo instituta.

(IODINE)

(KUSHVA DISTRICT--DIET)

(GOITER)

SHTENBERG, A.I.; OKOROKOVA, Yu.I.; YEREMIN, Yu.N. (Moskva)

Dietary factor and endemic goiter. Usp. sov. biol. 55 no.2:
255-276 '63. (MIRA 17:8)

YEREMIN, Yu.N. (Sverdlovsk)

Changes in the thyroid gland of animals under the effect of methylthiouracil and iodine insufficiency against the background of a diet containing different fats. Vop. pit. 24 no.1:48-52 Ja-F '65. (MIRA 18:9)

1. Kafedra gigiyeny pitaniya (zav.- dotsent Yu.I. Okorokova) Sverdlovskogo meditsinskogo instituta.

YEREMIN, Yu.N.

Iodine content in foodstuffs and the quality of nutrition of the population in some regions of the Urals marked by the occurrence of endemic goiter and in regions free of the disease. Vop.pit. 24 no.3:85-86 My-Je '65. (MIRA 18:12)

1. Kafedra gigiyeny pitaniya (zav. - dotsent Yu.I.Okorokova) Sverdlovskogo meditsinskogo instituta. Submitted February 12, 1964.

"APPROVED FOR RELEASE: 09/01/2001

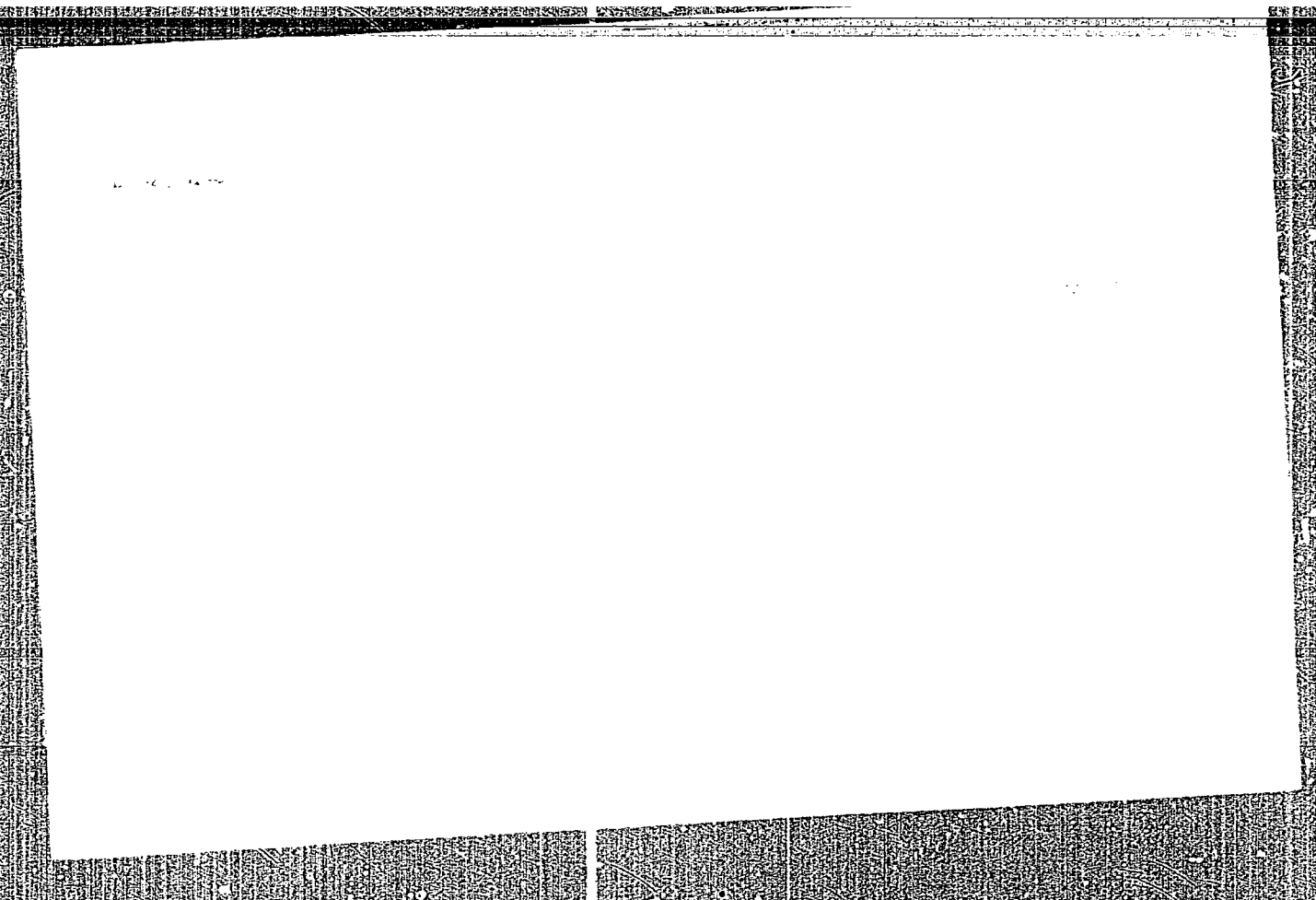
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CIA-RDP86-00513R001962720014-9"

YEREMINA, A.A.:

YEREMINA, A.A.: "A study of change in certain aspects of metabolism under the influence of complex therapy at the Talgi spa". Makhachkala, 1955. Rostov Medical Inst. (Dissertations for the Degree of Candidate of Medical Sciences.)

So. Knizhnaya letopis'. No. 49, 3 December 1955. Moscow.

65930 69530
S/078/60/005/05/03/037
B004/B016

240700
AUTHORS:

Glistenko, N. I., Yeremina, A. A.

TITLE:

Investigation of the Methods of Preparing Lead Selenide and
of Its Semiconductor Properties

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 5,
pp. 1003-1005

TEXT: The authors first describe the preparation of lead selenide from lead tartrate, lead sulfate, and lead chloride by reaction with hydrogen selenide. Lead selenide was obtained in all three experiments. The disadvantage of these reactions is the use of the toxic SeH_2 . This method was employed on the basis of the synthesis of cadmium selenide with selenosulfates, carried out by G. S. Klebanov (Ref. 4) at the GIPKh (Gosudarstvennyy institut prikladnoy khimii - State Institute of Applied Chemistry). The reaction proceeds in two stages: $\text{Na}_2\text{SeSO}_3 + \text{Pb}(\text{CH}_3\text{COO})_2 = \text{PbSeSO}_3 + 2\text{NaCH}_3\text{COO}$; $\text{PbSeSO}_3 + \text{H}_2\text{O} = \text{PbSe} + \text{H}_2\text{SO}_4$. The sodium selenosulfate was obtained by boiling a solution of sodium sulfite with selenium excess. Analysis

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Card 1/2

Investigation of the Methods of Preparing Lead
Selenide and of Its Semiconductor Properties

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B004/B016

of the lead selenides formed by the four reactions, determination of the specific gravity (in alcohol), and X-ray analysis of the crystal structure yielded full agreement. The crystals possess a face-centered cubic lattice. The semiconductor properties were determined by measuring the electrical conductivity by means of an MKMV direct-current bridge, and its temperature dependence on a Kurnakov pyrometer with simultaneous recording of heating curve and conductivity. The values are given in a table. The resistivity of lead selenide decreases with increasing temperature, which is a characteristic feature of semiconductors. The width of the forbidden zone for the PbSe obtained by the selenosulfate method was found to be equal to 0.4 eV, and for the PbSe obtained from lead tartrate and SeH_2 it was 0.92 eV. There are 1 table and 7 Soviet references.

ASSOCIATION: Voronezhskiy gosudarstvennyy universitet (Voronezh State University)

SUBMITTED: February 24, 1959

Card 2/2

MOREKHODOV, G.A.; YEREMINA, A.G.

Use of velour finished pigskins in shoe manufacture. Nauch.,
issl. trudy TSNIKP no. 33865-71 '63 (MIRA 1881)

YEREMINA, A.I.; SEREGIN, D.F.

Result of the treatment of epitheliomas of the eyelids with Gordeev's solution. Vest. oft., Moskva 31 no. 4:28-30 July-Aug. 1952.

(CJML 22:5)

1. Of the Eye Division (Head -- D. F. Seregin), Kalinigrad Oblast Hospital.

YEREMINA, A.I.

Preparation of patients for eye surgery. Vest.oft. no.3:72-77
My-Je '62. (MIRA 15:8)

1. Moskovskaya glaznaya klinicheskaya bol'nitsa (nauchnyy rukovo-
ditel' - zasluzhennyi deyatel' anuki prof. M.L. Krasnov).
(EYE--SURGERY)

BOCHEVER, Ye., kand. med. nauk; YEREMINA, A., vrach-okulist

Take care of your sight. Okhr. truda i sots. strakh. 6
no.11:26-30 N '63. (MIRA 16:11)

1. Moskovskaya glaznaya klinicheskaya bol'nitsa (for Yeremina).

*

Yeremina, A. M.
 "Preliminary Data on the Therapy of Tularemia Patients with Synthomycin," by A. M. Yeremina, *Khimiya i Meditsina. Sintomitsin* (Chemistry and Medicine. Synthomycin), Moscow, Medgiz, 1954, pp 168-172 (from Referativnyy Zhurnal--Biologiya, No 9, 10 May 57, Abstract No 39,094)

"Therapy with synthomycin of tularemia was carried out on five patients suffering from bubonic and bronchopulmonary forms of the disease with manifested intoxication (patients were from 4 to 38 years old). Synthomycin was administered in doses of 1.5 grams five times in 24 hours for periods of 4-6 days. The average dose of the antibiotic in the course of therapy was 16-25 grams. At the end of the first 24-hour period of therapy, a general improvement in the conditions of the patients was noted: temperature dropped, meningeal symptoms disappeared, appetite was regained, sleep improved, and pain in the lymphatic joints diminished. Despite this rapid improvement in the condition of the patients, no complete resorption of the buboes occurred; the pain remained, and occasionally the buboes increased in size and became suppurative. Synthomycin therapy in these cases was halted, and a course of vaccinotharapy was prescribed." (U)

Sum in 1967

YEREMINA, A. S.

YEREMINA, A. S. -- "Investigation of Profile Cavitation in Model Wheels of Axial Pumps." Sub 29 Dec 52, Moscow Order of Labor Red Banner Higher Technical School imeni Bauman (Dissertation for the Degree of Candidate in the Technical Sciences)

SO: VECHERNAYA MOSKVA, JANUARY-DECEMBER 1952

YEREMINA, A.S., kand.tekhn.nauk

Investigating the efficiency of axial pumps used in thermal electric
power plants. Trudy VIGM no.22:125-137 '58. (MIRA 11:11)
(Pumping machinery) (Electric power plants)

YEREMINA, A.S., kand.tekhn.nauk

Investigating the 52V-12 pump model for the Northern Donets
River-Donets Basin Canal. Trudy VIGM no.24:10-25 '59.

(MIRA 12:8)

(Centrifugal pumps--Testing)
(Donets Basin--Canals)

BEDCHER, A.M.; YEREMINA, A.S.; STOLOVITSKIY, B.M.

Geology, and oil and gas potentials of the Kurchanskaya test area.
Trudy KF VNI no.4:267-284 '60. (MIRA 13:11)

(Krasnodar Territory--Petroleum geology)
(Krasnodar Territory--Gas, Natural--Geology)

BEDCHER, A.Z.; YEREMINA, A.S.; STOLOVITSKIY, B.M.

Distribution of oil and gas potentials of upper Miocene reservoir
rocks in the western Kuban trough based on logging data. Trudy
KF VNII no.6:91-105 '61. (MIRA 15:2)
(Kuban-Azov Lowland--Oil well logging)
(Kuban-Azov Lowland--Gas well logging)

BEDCHER, A.Z.; YEREMINA, A.S.; SHIMANSKAYA, N.M.

Distribution of reservoir rocks and the characteristics of
Lower Pontian formation waters in the western Kuban
trough based on data from the geophysical observation of
wells. Trudy KF VNII no.10:242-251 '62. (MIRA 15:11)
(Kuban Lowland--Oil sands)
(Kuban Lowland--Oil field brines)

26

YEREMINA, BG.
BTR

762 Rastvorimost (Raznostomnykh Gazov i Azota. (Solubility of Monatomic Gases and Nitrogen). B. G. Yermina. 117 pages. 1950. Government Publishing House of the S.S. Zhdanov Order of Lenin University, Leningrad, U.S.S.R. (QD541 F35r)
Presents in detail the author's attempts to systematize known data on the above subject and his experimental work based on such organization. The fundamental properties of gases and liquids are studied. Experimental methods are described and voluminous experimental data are tabulated and charted.

YEREMINA, B.G.; AVERBUKH, A.Ya., redaktor; KRLIKH, E.Ya., tekhnicheskiy
redaktor

[Analysis of gases] Gazovyi analiz. Leningrad, Gos.nauchno-
tekhn.izd-vo khim.lit-ry, 1955. 379 p. (MLRA 9:1)
(Gases--Analysis)

DAVYDOV, A., inzh.; YEREMINA, G., inzh.

Deoxidization of water. Zhil.-komm.khoz. 9 no.8:18-19 '59.

(MIRA 12:11)

(Water heaters--Corrosion and anticorrosives)

YEREMINA, G.G., inzhener.

Efficiency innovators in municipal service establishments. Gor.
khos. Mosk. 29 no.12:26-27 D '55. (MLRA 9:3)
(Municipal services)

OZEROV, A.M.: YEREMINA, I.W.

Use of an asymmetric alternating current in electrodeposition of
metals. Zhur. prikl khim. 31 no.7:1058-1067 J1 '58. (MIRA 11:9)
(Electroplating) (Electric currents, Alternating)

YEREMINA, I. V. , LEVINTOV, Y. YL , MALYSKO, A. N., NIKOL'SKIY, V. G.

"Measurement of Polarization of Protons from (D D) Reaction,"

Inst. Chemical Physics,

paper submitted at the A-U Conf. on Nuclear Reactions in Medium and Low Energy
Physics, Moscow, 19-27 Nov 57

ACC NR: AP7000656

SOURCE CODE: UR/0126/66/022/005/0721/0724

AUTHOR: Gen, M. Ya.; Ieremina, I. V.; Fedorova, Ye. A.

ORG: Institute of Chemical Physics, AN SSSR (Institut khimicheskoy fiziki AN SSSR)

TITLE: Preparation and crystal structure of finely dispersed Fe-Co alloy powders

SOURCE: Fizika metallov i metallovedeniye, v. 22, no. 5, 1966, 721-724

TOPIC TAGS: iron cobalt alloy, iron cobalt alloy powder, aerosol powder, ^{METAL} PRODUCTION, ~~finely dispersed powder~~, powder property, IRON CONTAINING ALLOY, COBALT CONTAINING ALLOY, AEROSOL ^{METAL}

ABSTRACT: The preparation of highly dispersed, homogeneous, pure powders of Fe-Co alloys of various composition and various particle size by the aerosol method has been investigated. The powders contained 0 to 100% Co with spherical particles $5 \cdot 10^{-6}$ and $1.6 \cdot 10^{-6}$ cm and were obtained by evaporation of Fe-Co alloy at 2100C in argon and helium under atmosphere pressure followed by condensation of metal vapors. The average diameter of particles obtained by evaporation in argon was $5.3 \cdot 10^{-6}$ and in helium, $1.6 \cdot 10^{-6}$. Increasing Co content changed the lattice structure of the particles from α -Fe lattice to α - and γ -Fe lattice and finally to the Co lattice. The lattice parameters are not constant and depend on the Fe-Co alloy composition. It was established that the lattice parameters of aerosols of Fe-Co alloys and of Fe and Co are smaller than those of solid metals and alloys and

Card 1/2

UDC: 548.735

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depend on the particle size. Curves were plotted of the dependence of powder composition and lattice parameters on Fe-Co alloy composition. Orig. art. has: 3 figures and 1 table.

SUB CODE: 11, 13/ SUBM DATE: 10Feb66/ ORIG REF: 007/ OTH REF: 004/

Card. 2/2

KISSIN, Yu.V.; BELOYE, G.P.; YEREMINA, I.V.; VELICHENKOVA, Ye.A.; TSVETKOVA,
V.I.; CHIRKOV, N.M.

Spectroscopic criterion of the isotacticity of polypropylene.

Vyskom.soed. 5 no.7:1117 J1 '63.

(MIRA 16:9)

(Propylene—Spectra)

ACCESSION NR: APL030349

S/0190/64/006/003/0377/0378

AUTHORS: Firsov, A. P.; Yeremina, I. V.; Chirkov, N. M.

TITLE: The effect of temperature on the crystalline-phase content of isotactic polypropylene

SOURCE: Vyssokomolekulyarnyye soyedineniya, v. 6, no. 3, 1964, 377-378

TOPIC TAGS: polypropylene, isotactic polymer, crystalline phase, atactic polymer, n-heptane, solubility in n-heptane, low temperature crystallization, catalyst, Ziegler-Matta catalyst, stereo-regularity

ABSTRACT: The investigation was conducted with polypropylene synthesized on the catalytic systems ∞ - TiCl_3 - $\text{Al}(\text{C}_2\text{H}_5)_3$ and ∞ - TiCl_3 - $\text{Al}(\text{iso-C}_4\text{H}_9)_3$. From this substance three fractions were prepared, one insoluble in boiling n-heptane, another soluble in boiling n-heptane but insoluble in cold n-heptane, and a third soluble in cold n-heptane. Samples of these fractions were subjected to x-ray spectroscopic study at 20C and -100C. No difference was found between the crystalline-phase contents in relation to temperature of samples insoluble in boiling

Card 1/2